



国家儿童医学中心
National Center for Children's Health, China



北京儿童医院
BEIJING CHILDREN'S HOSPITAL



Children Asthma Action Plan in China

National Children's Medical Center
Beijing Children's Hospital
Capital Medical University
Kunling Shen



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Prof. Kunlin Shen

Professor of Pediatrics and doctorate program faculty of Beijing University Medical School.

Prof. Shen served as President of the China Medical Association Society of Pediatrics. She is the Director of National Clinical Research Center for Respiratory Diseases, Chair of the CMAP Section on Pulmonology, President of the health ministry Committee on Pediatric Medicine, Vice President of China Medical Doctors Association Society of Pediatrics, Vice Chair of CMDA Committee on Resident Training, and President of China Medicine Education Association Committee on Pediatrics. Prof. Shen is also President of the Asian Pediatric Pulmonology Society, BOD member of the Asian Pacific Academy of Pediatric Allergy, Respiriology, and Immunology, and BOD member of the International Pediatric Association.





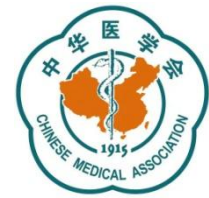
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- Asthma self-management in children
- Introduction of asthma action plan
- Develop children asthma action plan in China
- Practices of children asthma action plan in China
- Summary

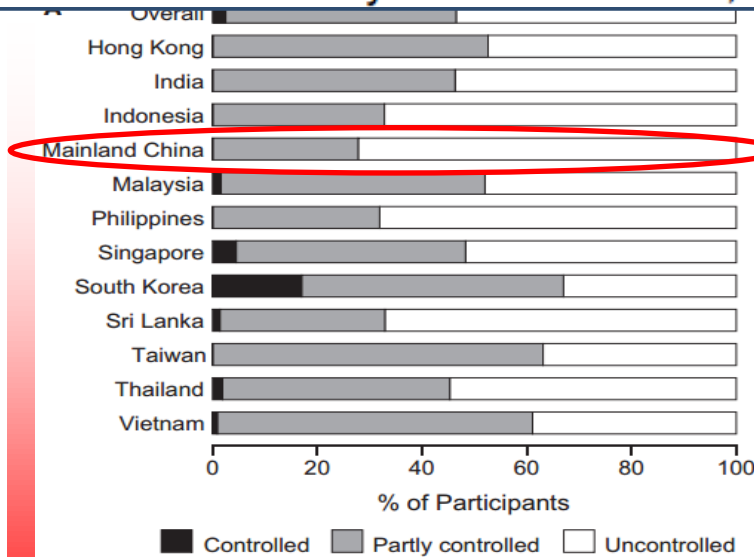




Childhood asthma is a common, chronic disorder

PREFACE

Asthma affects an **estimated 300 million individuals worldwide**. It is a serious global health problem affecting all age groups, with increasing prevalence in many developing countries, rising treatment costs, and a rising burden for patients and the community. Asthma still imposes an unacceptable burden on health care systems, and on society through loss of productivity in the workplace and, especially for pediatric asthma, disruption to the family, and it still contributes to many deaths worldwide, including amongst young people.



- Phase 2 of the Asthma Insights and Reality in the Asia-Pacific (AIRIAP 2) survey in 2006
- N = 988 0 to <16 years
- participants with diagnosed asthma
- 12 geographic areas in Asia
- **uncontrolled = 53.4%, (528/988)**
- **partly controlled = 44.0%, (435/988)**
- **Controlled asthma=2.5%(25/988)**

[1]GINA2018

[2]Wong G W, Kwon N, Hong J G, et al. Allergy, 2013, 68(4):524–530.



Repeated attacks of asthma in children impaired pulmonary function and increased the risk of COPD during adulthood

Early-Life Origins of Chronic Obstructive Pulmonary Disease

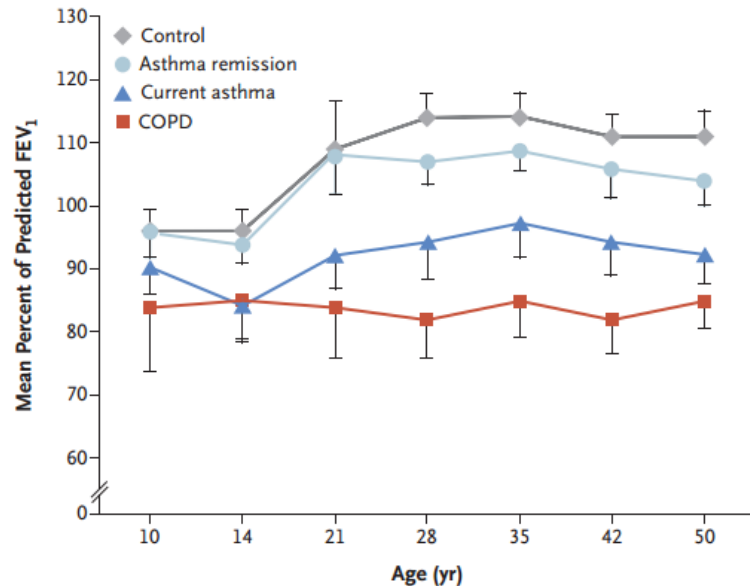


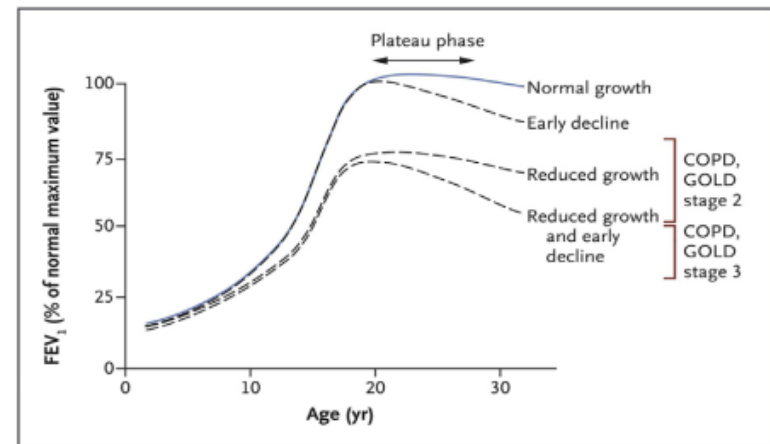
Figure 3. Percent of Predicted FEV₁ in Participants Followed between the Ages of 10 and 50 in the Melbourne Asthma Study.

- [1] Martinez FD. N Engl J Med, 2016,375(9):871-8.
 [2] Szeffer SJ. J Allergy Clin Immunol, 2018,142(3):773-780.

Four patterns of lung function over time

Children with persistent asthma and reduced growth of lung function are at increased risk for fixed airflow obstruction and possibly COPD in early adulthood.

Longitudinal Lung-Function Trajectories



McGeachie MJ et al. N Engl J Med 2016;374:1842-1852



FIG 3. This figure is reprinted from McGeachie et al¹¹ with permission. It depicts the lung function trajectories during the first 3 decades of life as the percentage of maximum FEV₁ as modeled from data in the Childhood Asthma Management Program continuation studies. GOLD, Global Initiative for Chronic Obstructive Lung Disease.



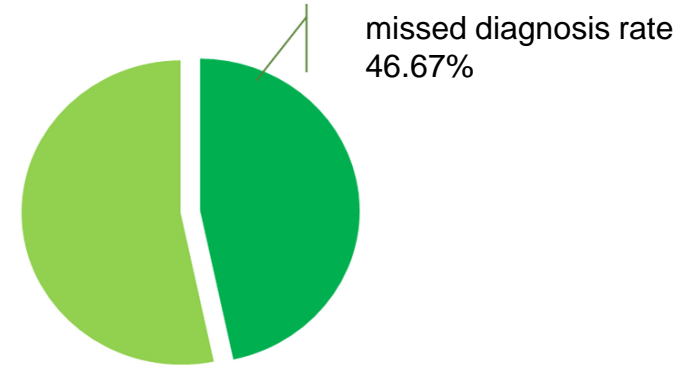
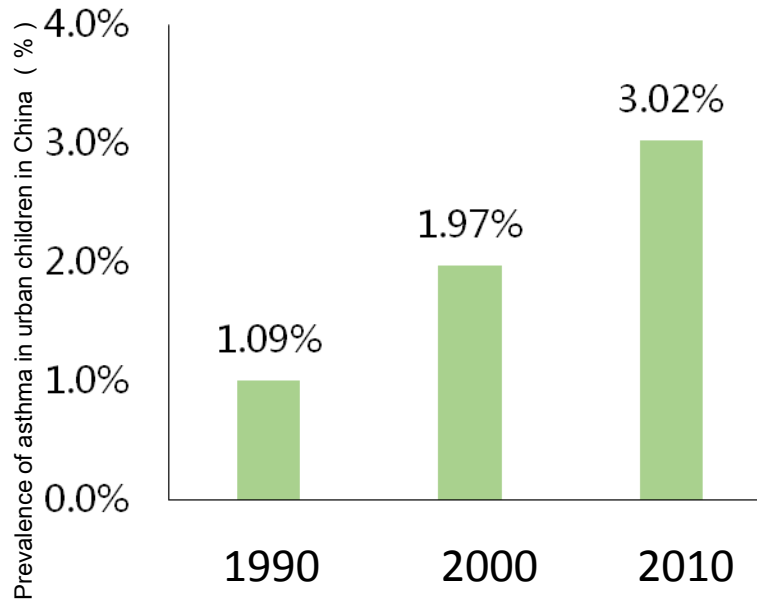
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Current state of childhood asthma in China

- The prevalence of asthma in children under 14 years old in China is **as high as 3.02%**
- In the past 20 years, the prevalence of asthmatic children in China has **increased by more than 50% every 10 years.**
- The cumulative missed diagnosis rate of asthma in children under 14 years old in China is **46.67%**



1. 全国儿科哮喘协作组, 第三次全国城市儿童哮喘流行病学调查[J]. 中华儿科杂志, 2013, 51(10): 729-735.
2. 刘传合等. 中国实用儿科杂志. 2013;28(11):809-811.
3. 中华医学会儿科学分会呼吸学组, 中华儿科杂志编辑委员会. 儿童支气管哮喘诊断与防治指南(2016年版)[J]. 中华儿科杂志, 2016, 54(3): 167-181.
4. 马艳良. 中国呼吸与危重监护杂志. 2004;3(1):10-14.





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Current state of childhood asthma in China

– In the past 12 months

- **66.0% of the children had asthma exacerbations**, of which 43% had more than three asthma exacerbation events, 18% had more than five exacerbation events,
- **26.8% had emergency treatment** for asthma attacks in the past 12 months
- **16.2% had hospitalization** due to asthma attacks,
- **38.3% of children** were absent from school
- **36.8% of parents** were absent from work

Survey project group for parents of asthma children in China. Chinese Journal of Pediatrics. 2016;54(2): 90-95.
Stanford RH, et al. J Asthma. 2010;47(3): 257-262.





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Childhood asthma self-management

A large number of studies have proved that self-management of asthma in children help

- improve asthma control
- improve asthma-related quality of life,
- reduce in the number of unscheduled healthcare visits and hospital admissions

Cote J, et al. Influence of asthma education on asthma severity, quality of life and environmental control. Can Respir J, 2000; 7: 395-400.

Fuhrman C, et al. Hospitalizations for asthma in children are linked to undertreatment and insufficient asthma education. J Asthma, 2011; 48: 565-571.





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Childhood asthma self-management

Strive for two goals

Improve asthma control
Reduce asthma exacerbations

Carry out five tasks

Education
Environmental control
Standardized treatment
Self-monitoring
Scientific research

Build relationships

The partnership
between patient
and health care
provider





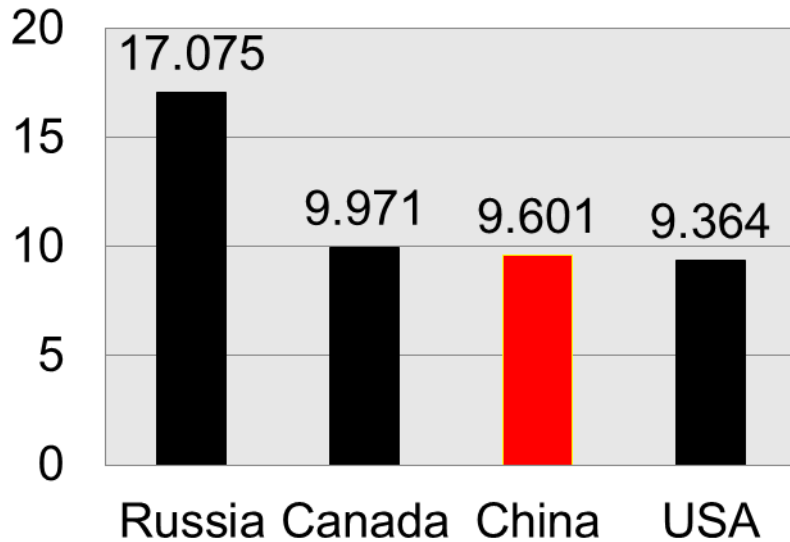
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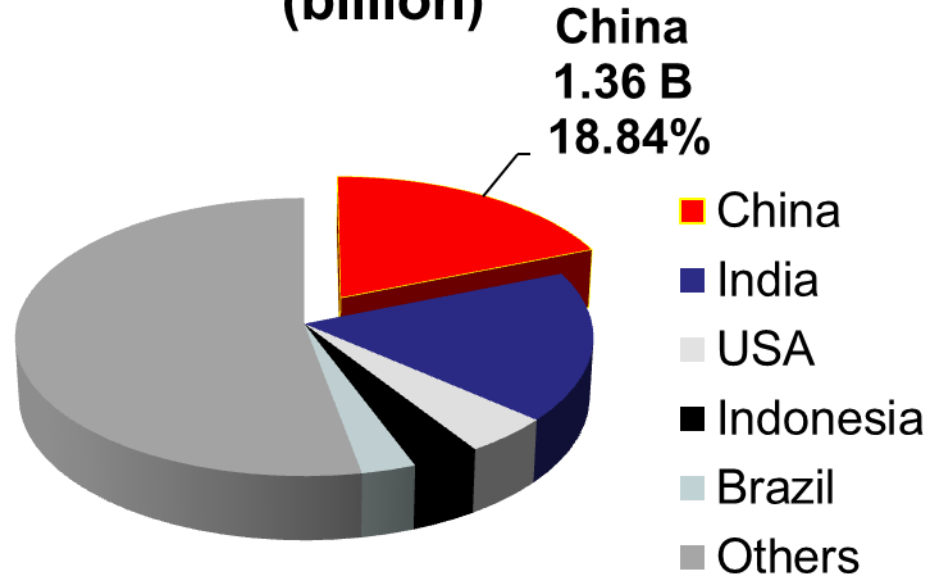
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Country Background

Land Area (million sq km)



Population (billion)



• China's GDP could top 61.1 trillion yuan (about 10 trillion dollars) by the end of 2014, making China the world's second-largest economy





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Huge children's population, steady growth

- Huge base: the sixth national census (2010)
 - 0-6 years: over 100 million, accounting for 1/5 of the world population of the same age
 - 0-14 years: 222 million, accounting for 16.6% of China's total population
 - 0-18 years: about 300 million, accounting for 22.5% of China's total population

Total US population: 320 million

- Steady growth, especially after the release of two-child policy
 - New-born population of about 20 million per year, **18.64 million in 2016**
 - New birth rate: 1 baby/4.15 seconds
 - The number of births in 2010 was 3 times the number 8 years ago





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The shortage of Chinese pediatricians



The number of pediatric practitioners (assistant) physicians per 1,000 children aged 0-14 in China is 0.53

VS

The number of pediatricians per 1,000 population in the United States, Canada, and Japan is 0.85-1.3

Goals : In 2020, there are 0.69 pediatricians per 1,000 children!



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- **There are estimated 10 million asthma children in China.**





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What is an asthma action plan?

- Is a written plan appropriate for the level of asthma and health literacy, telling patients how to recognize and respond to worsening asthma
- On the action plan, state when and how to change reliever and controller medications, use oral corticosteroids, and access medical care if symptoms fail to respond to treatment
- Advise patients who have a history of rapid deterioration to go to an acute care facility or see their doctor immediately their asthma starts to worsen
- Base the action plan on changes in symptoms or (only in adults) peak expiratory flow





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What is an asthma action plan?

- **As early as 1991, the US NHLB recommended that asthma action plan (AAP) should be provided for every asthma patient**
- **GINA states that all patients should be provided with a written asthma action plan (WAAP)**
- **Asthma Action Plan can help patients**
 - ✓ **Reduce acute asthma events, emergency department(ED)**
 - ✓ **Reduce missed school days**
 - ✓ **Improve medication adherence**
 - ✓ **Enhance the confidence of asthma treatment**





What is a good asthma action plan?

TABLE 1. Components of Poor and Good Written Asthma Action Plans

	Poor action plan	Good action plan
Action points	Too many decision points for patients to navigate	2 to 4 clearly specific action points: when, what, how much and how long, and what to expect
Readability	Poor readability (ie, not tailored to patient population)	Clear, unequivocal, brief, appropriate language describing how to increase treatment
Elements	No description of expected results from the interventions	Description of how long to increase treatment
When to call for help	No mention of severe signs or symptoms that warrant immediate medical attention	Clear instructions on when to obtain additional advice
Customization	A static and generic plan not customized to patient's specific situation. It rarely changes and is not addressed at most visits for chronic asthma care	Contact information included; feedback incorporated on a regular basis





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Examples of written asthma action plan

My Asthma Plan

1 My daily asthma medicines
My preventer inhaler is called _____ and its colour is _____.

2 When my asthma gets worse
I'll know my asthma is getting worse if _____ or it's _____ y _____ ily blue) _____ ould: _____ blue _____ ma _____ uler me) _____

3 When I have an asthma attack
I'm having an asthma attack if:
• My blue reliever inhaler isn't helping, or
• I can't talk or walk easily, or
• I'm breathing hard and fast, or
• I'm coughing or wheezing a lot, or
• My peak flow is less than _____.

When I have an asthma attack, I should:
Sit up — don't lie down. Try to be calm.
Take one puff of my reliever inhaler every 30 to 60 seconds up to a total of 10 puffs.

Even if I start to feel better, I don't want this to happen again so I need to see my doctor _____ asthma or asthma nurse today.

If I still don't feel better and I've taken ten puffs, I need to call 999 straight away. If I am waiting longer than 15 minutes for an ambulance I should call 999 again. I should take another _____ puffs of my blue reliever inhaler every 30 to 60 seconds up to 10 puffs.

Parents — get the most from your child's action plan
Make it easy for you and your family to find it when you need it
• Take a photo and keep it on your mobile (and your child's mobile if they have one)
• Stick a copy on your fridge door
• Share your child's action plan with school, grandparents and babysitter (a printout or a photo).

You and your parents can get your questions answered:
Call our friendly expert nurses
☎ 0300 222 5800
(Mon - Sun, Mon - Fri)
Get information, tips and ideas
🌐 www.asthma.org.uk

Asthma is well controlled

- No night-time asthma symptoms
- Daytime symptoms less than 4 times/week
- Can exercise with no symptoms
- Need reliever less than 4 times/week

Peak flow: _____
Other: _____

Medication	Dose	Times per day

Additional Notes & Instructions

Asthma is getting worse

- Disrupted sleep due to asthma symptoms
- Daytime symptoms 4 or more times/week
- Cannot exercise normally
- Need reliever more than 4 times/week
- Getting a cold or flu

Peak flow: _____
Other: _____

Medication	Dose	Times per day

Additional Notes & Instructions

Time to get help

- Difficulty speaking due to asthma
- Experiencing shortness of breath at rest
- Lips or nails turning blue
- Reliever does not work

Peak flow: _____
Other: _____

Medication	Dose	Times per day

Additional Notes & Instructions

Asthma.ca

Asthma Canada

What is an Asthma Action Plan?
Your Asthma Action Plan is your personalized guide for managing asthma when it gets out of control. Work with your healthcare provider to fill out your plan and take it with you when you visit your doctor for regular review.

Your Action Plan should help you recognize the early warning signs of an asthma exacerbation so you can take the appropriate steps to prevent a full-blown attack. It helps you take control of your asthma, know when to increase or decrease your medications and decide when to seek emergency help.

This Action Plan is a guide only. Always see your doctor if you are unsure of what to do.

Asthma Control
Your asthma is not well controlled if you answer 'yes' to any of the following:

- Do you use four or more puffs of your rescue inhaler per week?
- Do you wake up at night because of asthma symptoms?
- Do you stop exercising because of asthma?
- Do you miss school or work because of asthma?

Pro Tip:
Ask your healthcare provider to check your inhaler technique!

Name: _____
Email: _____
Date: _____

Physician Name & Phone: _____
Closest Hospital: _____
Emergency Contact Name & Phone: _____

MY ASTHMA ACTION PLAN

Asthma.ca

Asthma Canada

ASTHMA ACTION PLAN

what to look out for

WHEN WELL:
• You have no night-time wheezing, coughing or chest tightness
• You only occasionally have wheezing, coughing or chest tightness during the day
• You need reliever medication only occasionally or before exercise
• You can do your usual activities without getting asthma symptoms

WHEN NOT WELL:
THIS MEANS ANY ONE OF THESE:
• You have night-time wheezing, coughing or chest tightness
• You have morning asthma symptoms when you wake up
• You need to take your reliever more than usual
• Your asthma is interfering with your usual activities
THIS IS AN ASTHMA FLARE-UP!

IF SYMPTOMS GET WORSE:
THIS MEANS:
• You have increasing wheezing, cough, chest tightness or shortness of breath
• You are unable often at rest with asthma symptoms

ASTHMA ACTION PLAN

Take this ASTHMA ACTION PLAN with you when you visit your doctor

NAME _____ DATE _____ NEXT ASTHMA CHECK-UP DATE _____	DOCTOR'S CONTACT DETAILS Name _____ Phone _____ Relationship _____	EMERGENCY CONTACT DETAILS Name _____ Phone _____ Relationship _____
---	---	--

WHEN WELL: *Asthma under control (almost no symptoms)* ALWAYS CARRY YOUR RELIEVER WITH YOU!
Your preventer is: _____ Peak flow (if used above): _____
Take _____ puffs/tablets _____ times every day
Other instructions: _____
Your reliever is: _____
Take _____ puffs _____
When you have symptoms like wheezing, coughing or shortness of breath
☐ Use a spacer with your inhaler

WHEN NOT WELL: *Asthma getting worse (warning that you need to act, bring your exacerbation that wasn't warning up with asthma, asthma is interfering with usual activities)*
Keep taking preventer: _____ Peak flow (if used below): _____
Take _____ puffs/tablets _____ times every day
Other instructions: _____ ☐ Contact your doctor
Your reliever is: _____
Take _____ puffs _____

IF SYMPTOMS GET WORSE: *Severe asthma flare-up/attack (wheezing returns again within 2 hours, increasing difficulty breathing, waking often at night with asthma symptoms)*
Keep taking preventer: _____ Peak flow (if used below): _____
Take _____ puffs/tablets _____ times every day
Other instructions: _____ ☑ Contact your doctor today
Preventer(s)/prescription: _____
Take _____ each morning for _____ days
Your reliever is: _____
Take _____ puffs _____
☐ Use a spacer with your inhaler

DANGER SIGNS: *Asthma symptoms (severe breathing problems, symptoms get worse very quickly, reliever has little or no effect)*
Call an ambulance immediately
Say that this is an asthma emergency
Keep taking reliever as often as needed
☐ Use your adrenaline autoinjector (EpiPen or Anapen)

National Asthma Council Australia
nationalasthma.org.au





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The first China Children Asthma Action Plan was released on February 19, 2017



中国儿童哮喘行动计划 CCAAP

China Children Asthma Action Plan

儿童姓名: _____ 性别: 男 女 出生日期: _____年 _____月 _____日 年龄: _____岁/ _____月

身高: _____cm 体重: _____kg 峰流速 (PEF) 预计值: _____L/min 或个人最佳值: _____L/min

居住地: _____省 _____市/县 儿童身份证号: _____ 联系电话: _____

家长姓名 (父母): _____ 家长身份证号: _____ 联系电话: _____

就诊医院: _____ 执行开始时间: _____年 _____月 _____日 就诊时间: _____年 _____月 _____日

过敏原检测阳性结果 (sIgE和或SPT)

吸入性过敏原
 尘螨 霉菌 宠物 春季花粉 秋季花粉 蟑螂 其它 _____
 食物过敏原
 牛奶 鸡蛋 小麦 坚果 海鲜 大豆 花生 其它 _____

哮喘发作诱因 (可多选):

上呼吸道感染 过敏原暴露
 运动 哭闹或大笑
 刺激性气味 空气污染/雾霾
 气候变化 感冒鼻塞 其它 _____

根据临床症状和峰流速 (PEF) 监测结果进行哮喘自我管理

哮喘控制良好 ■■■■

你需要达到以下全部指标:

- 呼吸通畅
- 没有咳嗽或喘息
- 夜间睡眠安稳
- 能够正常学习、运动、玩耍

峰流速实测值 \geq 80% 预计值

请坚持每日使用控制药物 (C-Controller), 预防哮喘发作

药物名称	用法用量	疗程
C1. 布地奈德福莫特罗 \square 80/4.5 μ g \square 160/4.5 μ g	吸/次/日	月
C2. 沙美特罗氟替卡松 \square 25/50 μ g \square 50/100 μ g \square 50/250 μ g	吸/次/日	月
C3. 丙酸氟替卡松 \square 50 μ g \square 125 μ g	吸/次/日	月
C4. 布地奈德吸入剂 (100 μ g)	吸/次/日	月
C5. 布地奈德混悬液 \square 0.5mg/2ml \square 1mg/2ml	mL/次/日	月
C6. 孟鲁司特 \square 4mg \square 5mg \square 10mg	1片/次/睡前服用	月
C7. 其他	/次/日	月

如果运动引起哮喘, 可在运动前30分钟选择以下药物之一 (如果运动反复引起哮喘, 请及时就医):
 * \square 沙丁胺醇气雾剂 100 μ g 吸/次;
 * \square 布地奈德福莫特罗 \square 80/4.5 μ g \square 160/4.5 μ g 吸/次;

哮喘加重先兆 ■■■■

你会有下列症状:

- 夜间咳嗽
- 喘息
- 胸闷
- 夜间咳嗽加重

峰流速实测值在80% - 60% 预计值之间

立即使用下列缓解药物 (R-Reliever), 并升级每日控制药物

药物名称	用法用量	疗程
R1. 沙丁胺醇气雾剂 (100 μ g)	吸/次/日	日
R2. 沙丁胺醇溶液 (5mg/2.5ml)	mL/次/日	日
R3. 特布他林溶液 (5mg/2ml)	mL/次/日	日
R4. 异丙托溴铵溶液 \square 250 μ g/2ml \square 500 μ g/2ml	mL/次/日	日
C1. 布地奈德福莫特罗 \square 80/4.5 μ g \square 160/4.5 μ g	吸/次/日	日
C5. 布地奈德混悬液 \square 0.5mg/2ml \square 1mg/2ml	mL/次/日	日
C6. 孟鲁司特 \square 4mg \square 5mg \square 10mg	1片/次/睡前服用	日
控制药物升级	/次/日	日

* 如病情需要使用快速缓解药物治疗时, 第1小时可每20分钟1次, 1小时后按需使用;
 * 如每3小时内使用缓解药物超过1次, 或症状进行性加重, 或峰流速持续下降, 请立即就医!

哮喘急性发作 ■■■■

你的哮喘情况已经十分严重:

- 夜间咳嗽, 发憋, 呼吸困难
- 走路、说话困难, 无法平卧
- 鼻翼扇动, 口唇、指甲青紫
- 焦虑, 烦躁不安, 意识模糊

峰流速实测值 $<$ 60% 预计值

哮喘急性严重发作, 请立即使用以下药物, 并尽快就医或拨打急救电话

药物名称	用法用量
R1. 沙丁胺醇气雾剂 (100 μ g)	吸/次 第1小时内每20分钟一次
R2. 沙丁胺醇溶液 (5mg/2.5ml)	mL/次 第1小时内每20分钟一次
R3. 特布他林溶液 (5mg/2ml)	mL/次 第1小时内每20分钟一次
R4. 异丙托溴铵溶液 \square 250 μ g/2ml \square 500 μ g/2ml	mL/次 第1小时内每20分钟一次
C1. 布地奈德福莫特罗 \square 80/4.5 μ g \square 160/4.5 μ g	吸/次 第1小时内每20分钟一次
C5. 布地奈德混悬液 \square 0.5mg/2ml \square 1mg/2ml	mL/次 第1小时内每20分钟一次
口服激素	_____/次/即服用

情况紧急, 立即就医!

此哮喘行动计划, 目的为辅助哮喘患者的家庭自我管理。如遇任何紧急情况请及时就诊!

医生签字: _____ 国家儿童医学中心哮喘诊疗中心 中华医学会儿科分会哮喘组
 患者签字: _____ 中国医药教育协会儿科专业委员会 中国医院协会儿科专业委员会 联合监制





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China Children Asthma Action Plan –paper-based

Asthma Action Plan

Follow the color of the traffic lights



Green

- Well controlled
- Daily control medication



Yellow

- Signs of asthma exacerbation
- Reliever
- When to see a doctor



Red

- Acute asthma attack
- Emergency medication plan
- Seeking help

中国儿童哮喘行动计划 CCAAP

China Children Asthma Action Plan

儿童姓名: _____ 性别: 男 女 出生日期: _____年 _____月 _____日 年龄: _____岁/____月
 身高: _____cm 体重: _____kg 峰流速 (PEF) 预计值: _____ L/min 或个人最佳值: _____ L/min
 居住地: _____省 _____市/县 儿童身份证号: _____ 联系电话: _____
 家长姓名 (父/母): _____ 家长身份证号: _____ 联系电话: _____
 就诊医院: _____ 执行开始时间: _____年 _____月 _____日 随访时间: _____年 _____月 _____日



过敏原检测阳性结果 (sIgE 和或 SPT) 哮喘发作诱因 (可多选):

吸入性过敏原 上呼吸道感染 过敏性鼻炎
 尘螨 霉菌 宠物 春季花粉 秋季花粉 蟑螂 其它 _____ 运动 哭闹吃太急
 食物过敏原 刺激性气味 空气污染/雾霾
 牛奶 鸡蛋 小麦 坚果 海鲜 大豆 花生 其它 _____ 气候变化 香烟暴露 其它 _____

根据临床症状和峰流速 (PEF) 监测结果进行哮喘自我管理

哮喘控制良好 ■■■▶

请坚持每日使用控制药物 (C-Controller), 预防哮喘发作

你需要达到以下全部指标:

- 呼吸通畅
- 没有咳嗽或喘息
- 夜间睡眠安稳
- 能够正常学习、运动、玩耍

峰流速实测值 $\geq 80\%$ 预计值 _____

药物名称	用法用量	疗程
C1. <input type="checkbox"/> 布地奈德福莫特罗 <input type="checkbox"/> 80/4.5 μ g <input type="checkbox"/> 160/4.5 μ g	吸/次 次/日	月 月
C2. <input type="checkbox"/> 沙美特罗替卡松 <input type="checkbox"/> 25/50 μ g <input type="checkbox"/> 50/100 μ g <input type="checkbox"/> 50/250 μ g	吸/次 次/日	月 月
C3. <input type="checkbox"/> 丙酸氟替卡松 <input type="checkbox"/> 50 μ g <input type="checkbox"/> 125 μ g	吸/次 次/日	月 月
C4. <input type="checkbox"/> 布地奈德吸入剂 (100 μ g)	吸/次 次/日	月 月
C5. <input type="checkbox"/> 布地奈德混悬液 <input type="checkbox"/> 0.5mg/2ml <input type="checkbox"/> 1mg/2ml	m/次 次/日	月 月
C6. <input type="checkbox"/> 孟鲁司特 <input type="checkbox"/> 4mg <input type="checkbox"/> 5mg <input type="checkbox"/> 10mg	1片 /次 睡前服用	月 月
C7 其他 _____	/次 次/日	月 月

如果运动引起哮喘,可在运动前30分钟选择以下药物之一 (如果运动反复引起哮喘,请及时就医):
 沙丁胺醇气雾剂 100 μ g 吸/次
 布地奈德福莫特罗 80/4.5 μ g 160/4.5 μ g 吸/次

哮喘加重先兆 ■■■▶

立即使用下列缓解药物 (R-Reliever), 并升级每日控制药物

你有下列症状:

- 频繁咳嗽
- 喘息
- 胸闷
- 夜间咳嗽加重

峰流速实测值在 $80\% \sim 60\%$ 预计值之间: _____

药物名称	用法用量	疗程
R1. <input type="checkbox"/> 沙丁胺醇气雾剂 (100 μ g)	吸/次 次/日	日 日
R2. <input type="checkbox"/> 沙丁胺醇溶液 (5mg/2.5ml)	m/次 次/日	日 日
R3. <input type="checkbox"/> 特布他林溶液 (5mg/2ml)	m/次 次/日	日 日
R4. <input type="checkbox"/> 异丙托溴铵溶液 <input type="checkbox"/> 250 μ g/2ml <input type="checkbox"/> 500 μ g/2ml	m/次 次/日	日 日
C1. <input type="checkbox"/> 布地奈德福莫特罗 <input type="checkbox"/> 80/4.5 μ g <input type="checkbox"/> 160/4.5 μ g	吸/次 次/日	日 日
C5. <input type="checkbox"/> 布地奈德混悬液 <input type="checkbox"/> 0.5mg/2ml <input type="checkbox"/> 1mg/2ml	m/次 次/日	日 日
C6. <input type="checkbox"/> 孟鲁司特 <input type="checkbox"/> 4mg <input type="checkbox"/> 5mg <input type="checkbox"/> 10mg	1片 /次 睡前服用	日 日
控制药物升级 _____	/次 次/日	日 日

※如病情需要使用快速缓解药物治疗时,第1小时可用20分钟1次,1小时后按需用药;
 ※如每3小时内使用缓解药超过1次,或症状进行性加重,或峰流速持续下降,请立即就医!

哮喘急性发作 ■■■▶

哮喘急性严重发作,请立即使用以下药物,并尽快就医或拨打急救电话

你的哮喘情况已经十分严重:

- 剧烈咳嗽, 发热, 呼吸困难
- 走路、说话困难, 无法平卧
- 鼻翼扇动, 口唇、指甲青紫
- 焦虑, 烦躁不安, 意识模糊

峰流速实测值 $< 60\%$ 预计值 _____

药物名称	用法用量
R1. <input type="checkbox"/> 沙丁胺醇气雾剂 (100 μ g)	吸/次 第1小时内每20分钟一次
R2. <input type="checkbox"/> 沙丁胺醇溶液 (5mg/2.5ml)	m/次 第1小时内每20分钟一次
R3. <input type="checkbox"/> 特布他林溶液 (5mg/2ml)	m/次 第1小时内每20分钟一次
R4. <input type="checkbox"/> 异丙托溴铵溶液 <input type="checkbox"/> 250 μ g/2ml <input type="checkbox"/> 500 μ g/2ml	m/次 第1小时内每20分钟一次
C1. <input type="checkbox"/> 布地奈德福莫特罗 <input type="checkbox"/> 80/4.5 μ g <input type="checkbox"/> 160/4.5 μ g	吸/次 第1小时内每20分钟一次
C5. <input type="checkbox"/> 布地奈德混悬液 <input type="checkbox"/> 0.5mg/2ml <input type="checkbox"/> 1mg/2ml	m/次 第1小时内每20分钟一次
<input type="checkbox"/> 口服激素 _____	m/次 立即服用

情况紧急, 立即就医!

此哮喘行动计划, 目的为辅助哮喘患者的家庭自我管理。如遇任何紧急情况请及时就诊!

医生签字: _____ 患者签字: _____

国家呼吸系统疾病临床医学研究中心 中华医学会儿科学分会呼吸学组
 中国医药教育协会儿科专业委员会 中国研究型医院学会儿科专业委员会 联合编制



中国儿童哮喘行动计划 (纸质版)

China Children Asthma Action Plan
(paper-based)

哮喘控制良好



你需要达到以下全部指标：



- 呼吸通畅
- 没有咳嗽或喘息
- 夜间睡眠安稳
- 能够正常学习、运动、玩耍

峰流速实测值 \geq 80% 预计值 _____

请坚持每日使用控制药物 (C-Controller) , 预防哮喘发作

药物名称	用法用量	疗程
C1. <input type="checkbox"/> 布地奈德福莫特罗 <input type="checkbox"/> 80/4.5 μ g <input type="checkbox"/> 160/4.5 μ g	____ 吸/次 ____ 次/日	____ 月
C2. <input type="checkbox"/> 沙美特罗替卡松 <input type="checkbox"/> 25/50 μ g <input type="checkbox"/> 50/100 μ g <input type="checkbox"/> 50/250 μ g	____ 吸/次 ____ 次/日	____ 月
C3. <input type="checkbox"/> 丙酸氟替卡松 <input type="checkbox"/> 50 μ g <input type="checkbox"/> 125 μ g	____ 吸/次 ____ 次/日	____ 月
C4. <input type="checkbox"/> 布地奈德吸入剂 (100 μ g)	____ 吸/次 ____ 次/日	____ 月
C5. <input type="checkbox"/> 布地奈德混悬液 <input type="checkbox"/> 0.5mg/2ml <input type="checkbox"/> 1mg/2ml	____ ml/次 ____ 次/日	____ 月
C6. <input type="checkbox"/> 孟鲁司特 <input type="checkbox"/> 4mg <input type="checkbox"/> 5mg <input type="checkbox"/> 10mg	1 片 /次, 睡前服用	____ 月
C7. 其他 _____	____ /次 ____ 次/日	____ 月



如果运动引起哮喘，可在运动前30分钟选择以下药物之一（如果运动反复引起哮喘，请及时就医）：

- ※ 沙丁胺醇气雾剂 100 μ g _____ 吸/次，
 ※ 布地奈德福莫特罗 80/4.5 μ g, 160/4.5 μ g _____ 吸/次；



中国儿童哮喘行动计划 (纸质板)

China Children Asthma Action Plan
(paper-based)

哮喘加重先兆



你会有下列症状：



- 频繁咳嗽
- 喘息
- 胸闷
- 夜间咳嗽加重

峰流速实测值在80%~60%预计值之间：__ ~ __

立即使用下列缓解药物 (R-Reliever) ，并升级每日控制药物

药物名称	用法用量	疗程
R1. <input type="checkbox"/> 沙丁胺醇气雾剂 (100 μ g)	__ 吸/次 __ 次/日	__ 日
R2. <input type="checkbox"/> 沙丁胺醇溶液 (5mg/2.5ml)	__ ml/次 __ 次/日	__ 日
R3. <input type="checkbox"/> 特布他林溶液 (5mg/2ml)	__ ml/次 __ 次/日	__ 日
R4. <input type="checkbox"/> 异丙托溴铵溶液 <input type="checkbox"/> 250 μ g /2ml <input type="checkbox"/> 500 μ g /2ml	__ ml/次 __ 次/日	__ 日
C1. <input type="checkbox"/> 布地奈德福莫特罗 <input type="checkbox"/> 80/4.5 μ g <input type="checkbox"/> 160 /4.5 μ g	__ 吸/次 __ 次/日	__ 日
C5. <input type="checkbox"/> 布地奈德混悬液 <input type="checkbox"/> 0.5mg/2ml <input type="checkbox"/> 1mg/2ml	__ ml/次 __ 次/日	__ 日
C6. <input type="checkbox"/> 孟鲁司特 <input type="checkbox"/> 4mg <input type="checkbox"/> 5mg <input type="checkbox"/> 10mg	1 片 /次,睡前服用	__ 日
控制药物升级 _____	__ /次 __ 次/日	__ 日



※如病情需要使用快速缓解药物治疗时，第1小时可每20分钟1次，1小时后按需使用；

※如每3小时内使用缓解药超过1次，或症状进行性加重，或峰流速持续下降，需立即就医！



中国儿童哮喘行动计划 (纸质板)

China Children Asthma Action Plan
(paper-based)

哮喘急性发作



你的哮喘情况已经十分严重：



- 剧烈咳嗽，憋气，呼吸困难
- 走路、说话困难，无法平卧
- 鼻翼扇动，口唇、指甲青紫
- 焦虑，烦躁不安，意识模糊

峰流速实测值 < 60% 预计值 _____

哮喘急性严重发作，请立即使用以下药物，并尽快就医或拨打急救电话

药物名称

用法用量

R1. 沙丁胺醇气雾剂 (100 μ g)

_____ 吸/次,第1小时内每20分钟一次

R2. 沙丁胺醇溶液 (5mg/2.5ml)

_____ ml/次,第1小时内每20分钟一次

R3. 特布他林溶液 (5mg/2ml)

_____ ml/次,第1小时内每20分钟一次

R4. 异丙托溴铵溶液 250 μ g/2ml 500 μ g/2ml

_____ ml/次,第1小时内每20分钟一次

C1. 布地奈德福莫特罗 80/4.5 μ g 160 /4.5 μ g

_____ 吸/次,第1小时内每20分钟一次

C5. 布地奈德混悬液 0.5mg/2ml 1mg/2ml

_____ ml/次,第1小时内每20分钟一次

口服激素 _____ /次,即刻服用



情况紧急，立即就医！





国家儿童医学中心
National Center for Children's Health, China



北京儿童医院
BEIJING CHILDREN'S HOSPITAL

China Children Asthma Action Plan smartphone based

Judgment by peak flow rate PEF test and (or) symptoms

Set predicted value



Symptom self-reported and PEF measured



Automatically determine the zone



Remind medication or emergency medical treatment



中国儿童哮喘行动计划 - 电子版哮喘行动计划



悠然呼吸患者端：1.设置电子版行动计划；2.每日峰流速监测与症状评估；3.基于症状和/或峰流速确定哮喘控制状态；4.哮喘行动计划执行



中国儿童哮喘行动计划 - 电子版哮喘行动计划 Mobile APP

是中国儿童哮喘行动计划同步开发的电子版行动计划和哮喘管理平台



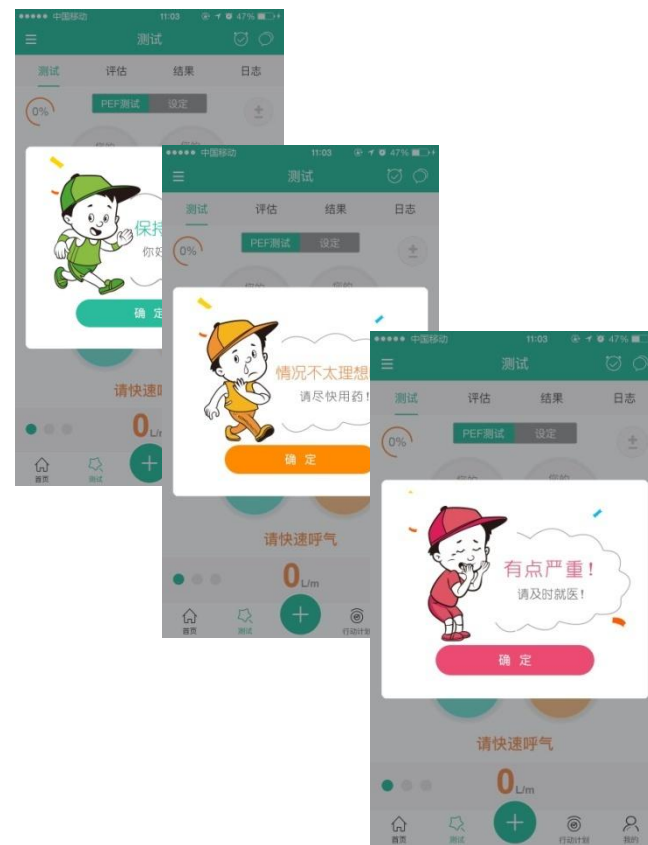
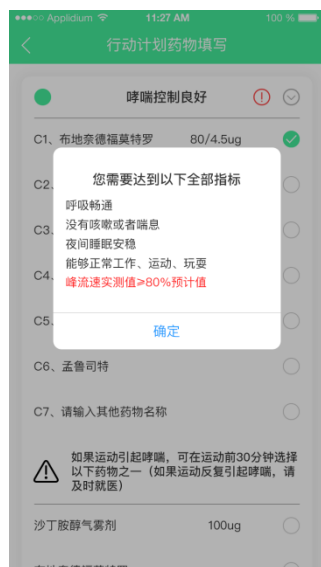
- 建立医生和患者的伙伴关系
- 电子版哮喘行动计划
- 哮喘日常管理
- 峰流速仪
- 患者激励系统
- 可视化哮喘管理
- 治疗与控制评估
- 哮喘教育
- 大数据的采集
- 更多功能.....

可以通过医生患者或ID/二维码互相添加



中国儿童哮喘行动计划 - 电子版哮喘行动计划

电子版哮喘行动计划



中国儿童哮喘行动计划 - 电子版哮喘行动计划

药物使用方法

视频



经储物罐吸入



气雾剂吸入教程 空气压缩泵雾化吸入教程



哮喘知识问卷

哮喘知识问卷调查

您认为哮喘本质是哪一种疾病？

- 感染性疾病
- 呼吸道疾病
- 传染性疾病
- 不知道

您认为哮喘这种疾病能控制吗？

- 不能
- 能，但是要经过长期坚持用药
- 能，不需要特别的治疗
- 不知道

您认为下列哪种情况提示孩子是哮喘？（多选）

- 持续咳嗽大于4周
- 近1年内有多于6次的呼吸道感染
- 使用支气管扩张剂后咳嗽得到改善
- 喘息反复发作大于3次

您认为儿童哮喘控制自我测试问卷（chACT）得分多少提示孩子的哮喘并没有得到控制？

- 大于等于23分

提交

哮喘控制评分

ATC哮喘评估

哮喘评估ACT 儿童哮喘评估C-ACT

哮喘控制测试（ACT）是治疗过程中监测和评估哮喘病情的有效工具，坚持每月测试，对于针对康复情况调整治疗方案和巩固疗效非常有帮助。

提示：请认真回答每个问题，这将有助于您与您的医生讨论您的哮喘。

1、在过去4周内，在工作、学习或家中，有多少时候哮喘妨碍您进行日常活动？

- 所有时间
- 大多数时候
- 有些时候
- 很少时候
- 没有

生活质量评分

生命质量评估测试

生命质量评估测试含 23 个问题，分 4 个维度，分别是生理功能(8 个问题)、情感功能(5 个问题)、社会功能(5 个问题)和角色功能(5 个问题)。每个问题都是调查最近 1 个月内某一事情发生的频率。

生理功能测试

1、你步行 200 米以上有困难吗？

- 从来没有
- 几乎没有
- 有时候会有
- 经常有
- 一直有



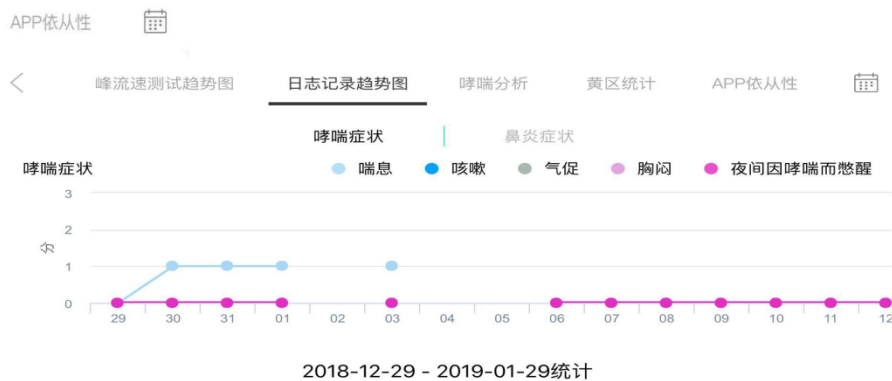
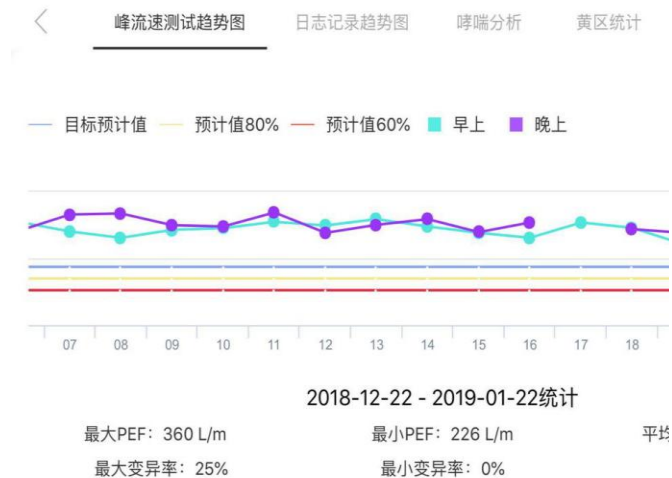
中国儿童哮喘行动计划 - 电子版哮喘行动计划



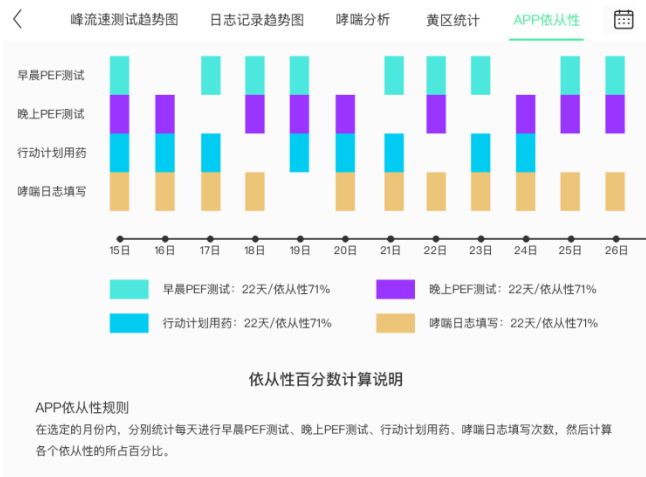
悠然呼吸患者端: 1. 允许电子峰流速测试或手工输入峰流速值; 2. 根据症状和/或峰流速评定哮喘控制状态; 3. 哮喘发作诱因记录; 4. 黄区哮喘紧急控制流程管理。



中国儿童哮喘行动计划 - 悠然呼吸哮喘管理平台 APP



	咳嗽	喘息	气促	胸闷	夜间因哮喘而憋醒
未记录	4天	4天	5天	5天	5天
1分-2分	5天	0天	0天	0天	0天

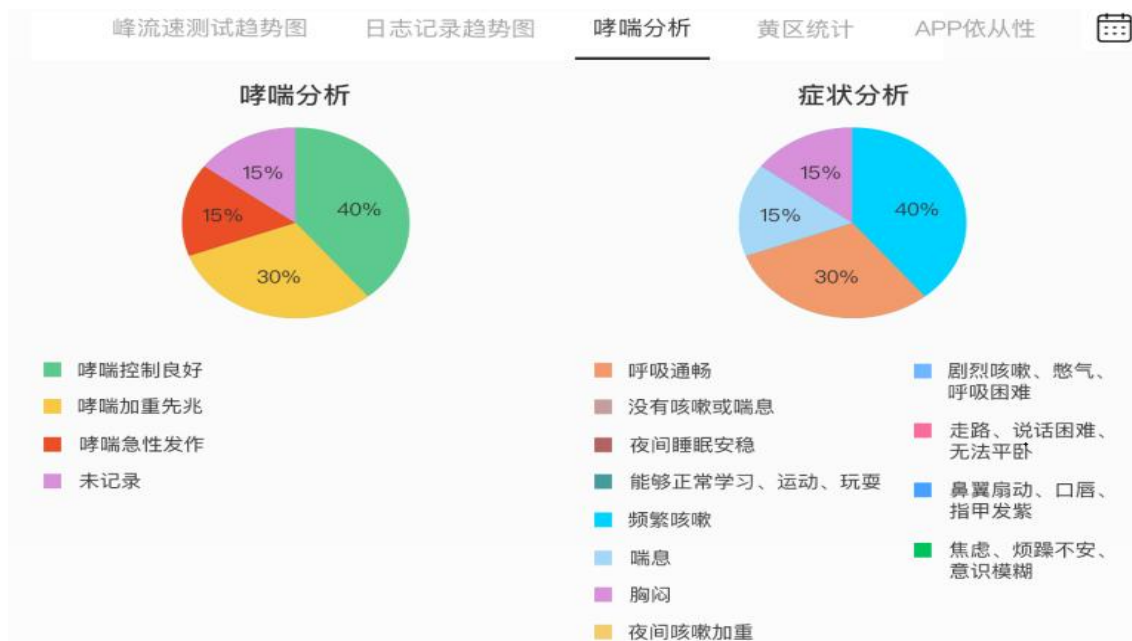


可视化哮喘管理及分析，为医生评估控制情况，调整治疗方案提供依据

悠然呼吸哮喘管理平台：1.每日峰流速测试结果分析；2.哮喘症状记录及严重程度记录；3.哮喘管理依从性评估；4.哮喘控制分析；



中国儿童哮喘行动计划 - 悠然呼吸哮喘管理APP



悠然呼吸哮喘管理APP：1.建立医院与患者伙伴儿关系；2.了解患者家庭管理情况；3.掌握患者哮喘控制分析；4.指导患者调整行动计划方案。

中国儿童哮喘行动计划 - 悠然呼吸哮喘管理APP

12:16

结果

1、在过去4周内，在工作、学习活动中，有多少时候哮喘妨碍您进行日常活动？

⑤ 没有

2、在过去4周内，您有多少次呼吸困难？

⑤ 完全没有

3、在过去的四周里，因为喘息症状(喘息、咳嗽、呼吸困难、胸闷或疼痛)，您有多少次在夜里醒来或早上比平时早醒？

⑤ 没有

4、在过去的4周内，您有多少次使用急救药物治疗(如沙丁胺醇)？

⑤ 没有

5、您如何评价过去四周内您的哮喘控制情况？

⑤ 完全控制



中国儿童哮喘行动计划
China Children Asthma Action Plan

悠然呼吸报告

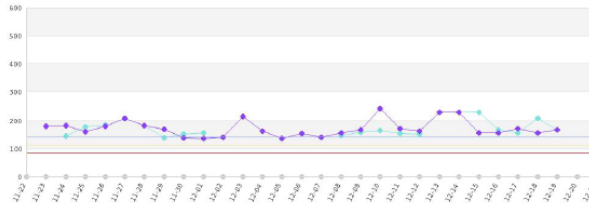
报告周期: 2018年11月22日-2018年12月22日
1、个人信息

姓名	董瀚祥	性别	男	出生日期	2012-06-15
过敏原	未设置 尘螨,霉菌,秋季花粉		诱发因素		
当前理论预计值	目标PEF:142 L/m; 目标FEV1: L				
我的医生	向莉(ID:980)	就诊医院	首都医科大学附属北京儿童医院		

2、行动计划:

3、峰流速测试趋势与数据统计

— 目标预计值 — 目标预计值80% — 目标预计值60% ● 早晨 ● 晚上



数据分析

最大PEF值(L/min)	244	最小PEF值(L/min)	129	平均PEF(L/min)	171
最大日变异率	50%	最小日变异率	0%		



中国儿童哮喘行动计划
China Children Asthma Action Plan

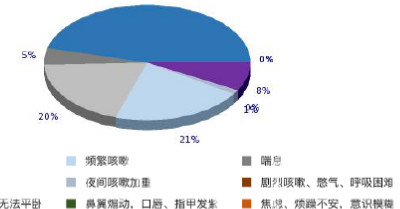
哮喘控制分析



控制数据

哮喘控制良好(次)	41	哮喘加重先兆(次)	7
哮喘急性发作(次)	0	未记录(次)	12

症状分析



症状数据

无症状(次)	40	频繁咳嗽(次)	18	喘息(次)	4
胸闷(次)	17	夜间咳嗽加重(次)	1	剧烈咳嗽、憋气、呼吸困難(次)	0

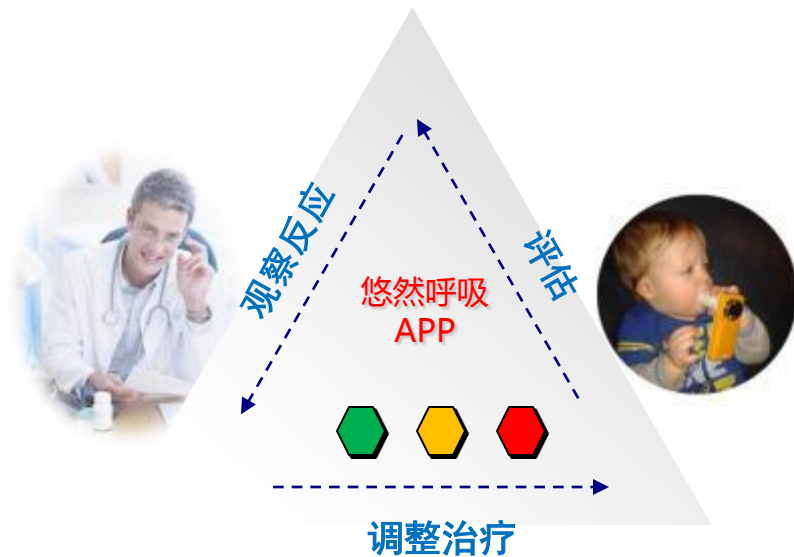
悠然呼吸哮喘管理APP：1.定期的哮喘控制评估；2.哮喘管理报告；3.哮喘教育资讯。全面提高患者哮喘管理水平，帮助医生了解哮喘治疗有效性及管理依从性。



中国儿童哮喘行动计划+互联网

纸质版

- 采取交通信号灯方式管理
- 明确哮喘症状识别
- 明确不同哮喘状态下的峰流速范围
- 明确过敏原和哮喘诱发因素
- 制定不同状态下的用药方案



电子版哮喘行动计划

- 基于哮喘症状
- 基于峰流速实测值
- 根据症状和峰流速实测值
自动分区
- 自动推送用药提醒记录用药情况
- 自动定期推送哮喘ACT评估和生活质量评估增加患者治疗依从性
- 过敏原及诱发因素避免提示

悠然呼吸哮喘管理平台（手机APP）

- 建立患者与医生之间的伙伴儿关系
- 可视化的哮喘管理
- 定期的哮喘控制评估
- 用药及治疗技术指导
- 医患交流平台，实现哮喘病人的远程管理



悠然呼吸手机APP





儿童姓名: _____ 性别: 男 女 出生日期: _____年____月____日 年龄: _____岁/____月
 身高: _____cm 体重: _____kg 峰流速(PEF) 预计值: _____ L/min 或个人最佳值: _____ L/min
 居住地: _____省____市/县 儿童身份证号: _____ 联系电话: _____
 家长姓名(父/母): _____ 家长身份证号: _____ 联系电话: _____
 就诊医院: _____ 执行开始时间: _____年____月____日 复诊时间: _____年____月____日

过敏原检测阳性结果 (sIgE和或SPT) _____ 哮喘发作诱因 (可多选): _____
吸入性过敏原 上呼吸道感染 过敏原暴露
尘螨 霉菌 宠物 春季花粉 秋季花粉 蟑螂 其它: _____ 运动 哭闹或大笑
食物过敏原 刺激性气味 空气污染/雾霾 气候变化 香烟烟雾 其它: _____
牛奶 鸡蛋 小麦 坚果 海鲜 大豆 花生 其它: _____

根据临床症状和峰流速 (PEF) 监测结果进行哮喘自我管理

哮喘控制良好

你需要达到以下全部指标:

- 呼吸通畅
- 没有咳嗽或喘息
- 夜间睡眠安稳
- 能够正常学习、运动、玩耍

峰流速实测值 > 80% 预计值 _____

请坚持每日使用控制药物 (C-Controller), 预防哮喘发作

药物名称	用法用量	疗程
C1. <input type="checkbox"/> 布地奈德福莫特罗 <input type="checkbox"/> 80/4.5µg <input type="checkbox"/> 160/4.5µg	____吸/次 ____次/日	____月
C2. <input type="checkbox"/> 沙美特罗替卡松 <input type="checkbox"/> 25/50µg <input type="checkbox"/> 50/100µg <input type="checkbox"/> 50/250µg	____吸/次 ____次/日	____月
C3. <input type="checkbox"/> 丙酸氟替卡松 <input type="checkbox"/> 50µg <input type="checkbox"/> 125µg	____吸/次 ____次/日	____月
C4. <input type="checkbox"/> 布地奈德吸入剂 (100µg)	____吸/次 ____次/日	____月
C5. <input type="checkbox"/> 布地奈德混悬液 <input type="checkbox"/> 0.5mg/2ml <input type="checkbox"/> 1mg/2ml	____ml/次 ____次/日	____月
C6. <input type="checkbox"/> 孟鲁司特 <input type="checkbox"/> 4mg <input type="checkbox"/> 5mg <input type="checkbox"/> 10mg	1片/次 睡前服用	____月
C7. 其他 _____	____次 ____次/日	____月

如果运动引起哮喘,可在运动前30分钟选择以下药物之一(如果运动反复引起哮喘,请及时就医):
沙丁胺醇气雾剂 100µg ____吸/次;
布地奈德福莫特罗 80/4.5µg 160/4.5µg ____吸/次;

哮喘加重先兆

你会有下列症状:

- 频繁咳嗽
- 喘息
- 胸闷
- 夜间咳嗽加重

峰流速实测值在80%~60%预计值之间: _____

立即使用下列缓解药物 (R-Reliever), 并升级每日控制药物

药物名称	用法用量	疗程
R1. <input type="checkbox"/> 沙丁胺醇气雾剂 (100µg)	____吸/次 ____次/日	____日
R2. <input type="checkbox"/> 沙丁胺醇溶液 (5mg/2.5ml)	____ml/次 ____次/日	____日
R3. <input type="checkbox"/> 特布他林溶液 (5mg/2ml)	____ml/次 ____次/日	____日
R4. <input type="checkbox"/> 异丙托溴铵溶液 <input type="checkbox"/> 250µg/2ml <input type="checkbox"/> 500µg/2ml	____ml/次 ____次/日	____日
C1. <input type="checkbox"/> 布地奈德福莫特罗 <input type="checkbox"/> 80/4.5µg <input type="checkbox"/> 160/4.5µg	____吸/次 ____次/日	____日
C5. <input type="checkbox"/> 布地奈德混悬液 <input type="checkbox"/> 0.5mg/2ml <input type="checkbox"/> 1mg/2ml	____ml/次 ____次/日	____日
C6. <input type="checkbox"/> 孟鲁司特 <input type="checkbox"/> 4mg <input type="checkbox"/> 5mg <input type="checkbox"/> 10mg	1片/次 睡前服用	____日

控制药物升级 _____ 次 ____次/日

如病情需要快速缓解药物治疗时,第1小时可每20分钟1次,1小时后按需使用;
 如每3小时内使用缓解药超过1次,或症状进行性加重,或峰流速持续下降,需立即就医!

哮喘急性发作

你的哮喘情况已经十分严重:

- 剧烈咳嗽,发憋,呼吸困难
- 走路、说话困难,无法平静
- 鼻翼扇动,口唇、指甲青紫
- 焦虑,烦躁不安,意识模糊

峰流速实测值 < 60% 预计值 _____

哮喘急性严重发作,请立即使用以下药物,并尽快就医或拨打急救电话

药物名称	用法用量
R1. <input type="checkbox"/> 沙丁胺醇气雾剂 (100µg)	____吸/次 第1小时内每20分钟一次
R2. <input type="checkbox"/> 沙丁胺醇溶液 (5mg/2.5ml)	____ml/次 第1小时内每20分钟一次
R3. <input type="checkbox"/> 特布他林溶液 (5mg/2ml)	____ml/次 第1小时内每20分钟一次
R4. <input type="checkbox"/> 异丙托溴铵溶液 <input type="checkbox"/> 250µg/2ml <input type="checkbox"/> 500µg/2ml	____ml/次 第1小时内每20分钟一次
C1. <input type="checkbox"/> 布地奈德福莫特罗 <input type="checkbox"/> 80/4.5µg <input type="checkbox"/> 160/4.5µg	____吸/次 第1小时内每20分钟一次
C5. <input type="checkbox"/> 布地奈德混悬液 <input type="checkbox"/> 0.5mg/2ml <input type="checkbox"/> 1mg/2ml	____ml/次 第1小时内每20分钟一次

皮质激素 _____ 次 即刻服用

情况紧急,立即就医!

此哮喘行动计划, 目的为辅助哮喘患者的家庭自我管理。如遇任何紧急情况请及时就诊!

医生签字: _____ 患者签字: _____ 日期: _____

有效控制哮喘, 启用中国儿童哮喘行动计划!





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National Center for Children's Health, China



北京儿童医院
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Asthma management APP is being upgraded in China!



- Start ~online
- 2016.7-2017.2

APP
version 1

- Start ~online
- 2018.5-2018.10

APP
version 2





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China has
9.6 million
square
kilometers





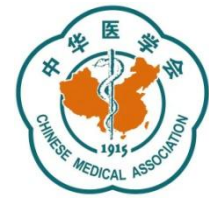
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Contents

- Asthma self-management in children
- Introduction of asthma action plan
- Develop children asthma action plan in China
- Practices of children asthma action plan in China
- Summary





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China Children Asthma Action Plan official website

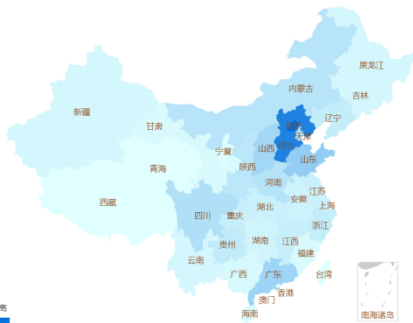
Since 2017, WeChat subscription of the China Children's Asthma Action Plan has been launched.

The total number of people who pay attention to it is **11,718** **10,487**



用户所在区域分布

数据来自悠悠呼吸APP

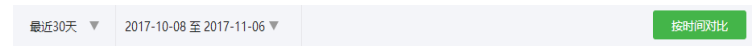


省份	用户数	各省用户数占比
北京	1004	18.38%
河北	803	15.8%
山东	346	6.34%
广东	299	5.48%
山西	274	5.02%
四川	217	3.97%
天津	202	3.7%
河南	200	3.66%
内蒙古	182	3.33%
陕西		3.08%

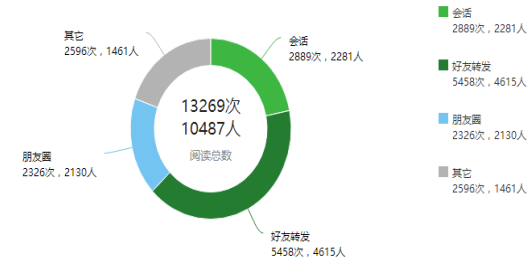
The doctors have issued a total of 161 articles, with a **cumulative reading of more than 130,000 population.**

The maximum number of readers per article is

10,487



阅读来源分析



CCAAP official website is also in operation



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Promotion of Children Asthma Action Plan in China

Date	category	Number	
Sep. 1st, 2019	APP registration	doctors	2895
		patients	5450
	WeChat Subscription	followers	11673
		WeChat groups	group members
	groups	73	



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Promotion of Children Asthma Action Plan in China

we conducted 73 clinical promotion meetings in more than 40 regions and 29 provinces across the country.

- Clinical promotion areas:

Beijing, Tianjin, Shanghai, Chongqing, Shenzhen, Haikou, Shijiazhuang, Handan, Changzhi, Qingdao, Huangdao, Nanning, Beihai, Kaili, Xunyi, Taiyuan, Wuhan, Santai, Xianyang, Urumqi, Jinan, Qingdao, Fuyang, Yinchuan, Chengdu, Guilin, Xinxiang, Wuhan, Nanchang, Huangqi, Leshan, Yantai, Yibin, Zhengzhou, Changchun, Shenyang, Harbin, Xi'an, Hefei, Changsha, Lanzhou, Guiyang, Xingyi, Yueyang, Fuzhou, Kunming, Suzhou, Hong Kong

- Provinces :

Beijing, Tianjin, Shanghai, Chongqing, Liaoning, Jilin, Changchun, Heilongjiang, Shandong, Shanxi, Hebei, Henan, Shaanxi, Qinghai, Gansu, Ningxia, Hubei, Hunan, Jiangxi, Jiangsu, Zhejiang, Anhui, Fujian, Guangdong, Guangxi, Yunnan, Guizhou, Sichuan, Hainan





China Children Asthma Action Plan Expert Committee

国家儿童医学中心 北京儿童医院
National Center for Children's Health, China BEIJING CHILDREN'S HOSPITAL

- On June 22, 2018, the China Children Asthma Action Plan Management Project officially entered the “National Telemedicine and Internet Medical Center” platform, **becoming the first pediatric respiratory disease management project.**





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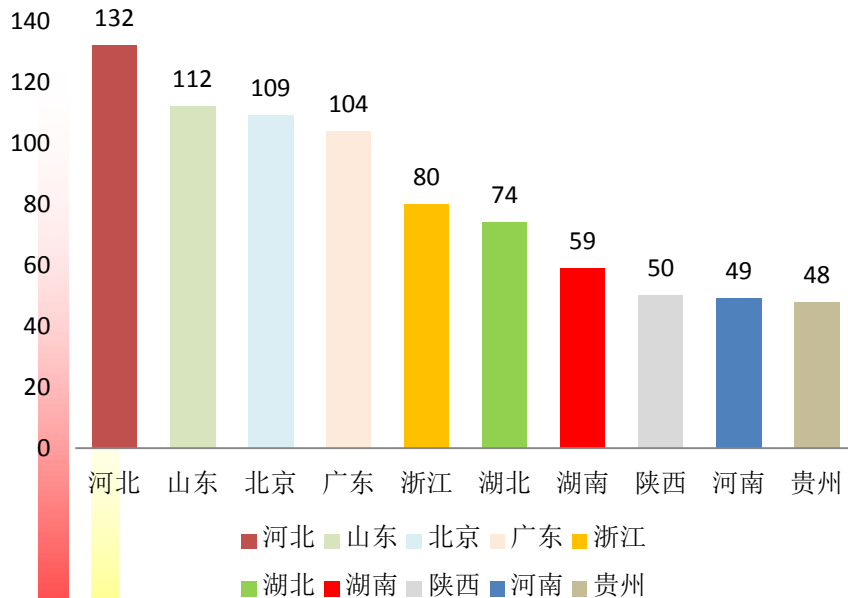


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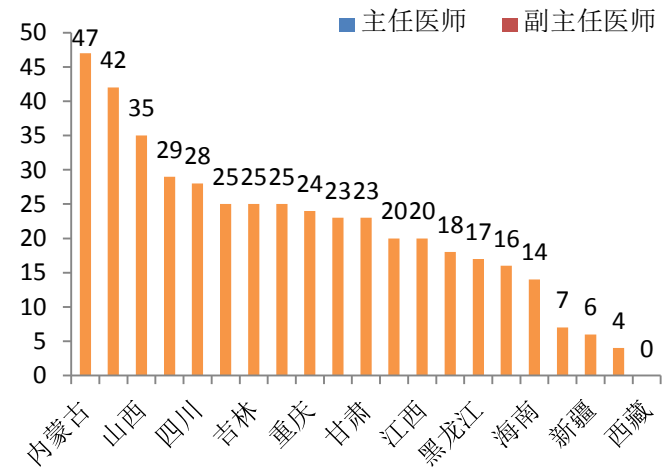
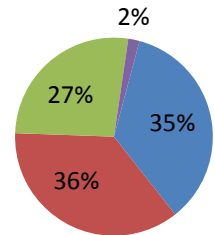
China Children Asthma Action Plan Expert Committee

- The CCAAP Committee is prepared in June 2018.
- In just one month, it received more than 1,300 applications from members.

Members for the top 10 provinces and cities



71% of the total number of applicants with senior titles



Application state in other provinces



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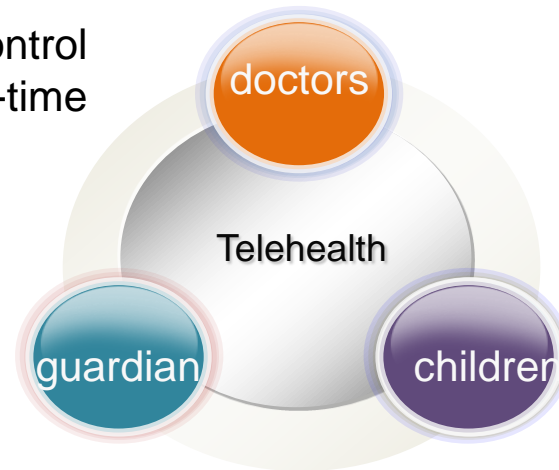
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China Children Asthma Action Plan has extended from Beijing to other city

Develop Real World Study of China Children Asthma Action Plan !



get control
in real-time



learning asthma
management
skills

Self-monitoring





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National Center for Children's Health



北京儿童医院

- **Chinese Pediatric Pulmonology Society propose: making 10 thousand → 100 thousand → 1 million → 10 million asthma children use the asthma action plan.**
- **Global Pediatric Pulmonology Alliance**
- **Global Children Asthma Action Plan Initiative**
- **Improving paediatric care across international borders**





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Summary

- **Childhood asthma management is a long-term effort**
- **With the development of Internet technology, it brings new opportunities for children asthma management**
- **In China, we released paper-based and smartphone-based China Children Asthma Action Plan which can be reached to anyone anywhere and anytime.**
- **There is long way to work together to build an effective and professional asthma management platform !**



Thanks

